

CLAIMS:

1. A semiconductor device (20) having a substrate (1) on a first side (2) of which there are provided a first semiconductor element (3) and at least one security coating (14) which comprises a powdery filler incorporated in a matrix, characterized in that

- the difference between the refractive index of the powdery first filler and that of the matrix
- 5 is at least 0.3, and
- the coating comprises a second filler which is a substantial absorber of radiation of wavelengths at least in the range of from 800 to 1400 nm and is free of heavy metals.

10 2. A semiconductor device (20) as claimed in Claim 1, characterized in that the second filler comprises TiN.

3. A semiconductor device (20) as claimed in Claim 1 or 2, characterized in that the first filler comprises TiO₂.

15 4. A semiconductor device (20) as claimed in Claim 1, characterized in that the matrix of the security coating comprises monoaluminumphosphate.

5. A semiconductor device (20) as claimed in Claim 4, characterized in that the security coating has a thickness of less than 3 μm.

20 6. A semiconductor device (20) as claimed in Claim 1, characterized in that it includes a light-sensitive element and an element containing data, which elements are covered by the security coating (14) and which light-sensitive element, after damaging of the coating, reacts to exposure to visible light by inducing a permanent change of state of the element

25 containing data.

7. A semiconductor device (20) as claimed in Claim 1, characterized in that it includes a light-sensitive element and an electrically programmable element containing data, which elements are covered by the security coating (14) and which light-sensitive element,

after damaging of the coating, reacts to exposure to visible light by inducing erasure of the data and by bringing the electrically programmable element into a non-programmable state.

8. A smartcard provided with a semiconductor device (20) comprising a memory
5 and a security coating (14) which comprises a powdery first filler incorporated in a matrix, characterized in that

- the coating comprises a second filler which is an absorber of radiation of a wavelength in the range of from 800 to 1400 nm, and

- the difference between the refractive index of the first filler and that of the matrix is at least

10 0.3.